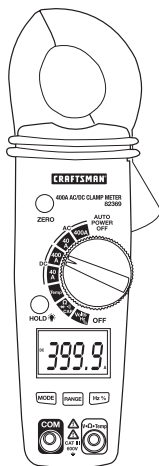


## Owner's Manual

# CRAFTSMAN

## AC/DC Clamp Meter

**Model No.**  
**82369**



**CAUTION:** Read, understand and follow Safety Rules and Operating Instructions in this manual before using this product.

- Safety
- Operation
- Maintenance
- Español

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[www.craftsman.com](http://www.craftsman.com) 061906

## TABLE OF CONTENTS

Warranty	Page 3
Safety Instructions	4
Safety Symbols	5
Control and Jacks	6
Symbols and Annunciators	6
Specifications	7
Operating Instructions	11
AC Current Measurements	11
DC Current Measurements	11
AC Voltage Measurements	12
DC Voltage Measurements	12
Resistance Measurements	13
Continuity Measurements	13
Diode Testing	14
Capacitance Measurements	14
Frequency/Duty Cycle Measurements	15
Temperature Measurements	15
Auto Power Off	16
Auto/Manual Ranging	16
Data Hold	16
Backlight	16
ZERO function	16
Maintenance	17
Battery Replacement	17
Troubleshooting	18
Service and Parts	18

## **ONE YEAR FULL WARRANTY**

### **ONE YEAR FULL WARRANTY ON CRAFTSMAN AC/DC CLAMP METER**

If this CRAFTSMAN Clamp Meter fails to give complete satisfaction within one year from the date of purchase, RETURN IT TO THE NEAREST SEARS STORE OR OTHER CRAFTSMAN OUTLET IN THE UNITED STATES, and Sears will replace it, free of charge.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., Dept. 817WA, Hoffman Estates, IL 60179

**For Customer Assistance Call 9am - 5pm (ET)  
Monday through Friday 1-888-326-1006**

**WARNING: USE EXTREME CAUTION IN THE USE OF THIS DEVICE.** Improper use of this device can result in injury or death. Follow all safeguards suggested in this manual in addition to the normal safety precautions used in working with electrical circuits. DO NOT service this device if you are not qualified to do so.

## SAFETY INSTRUCTIONS

This meter has been designed for safe use, but must be operated with caution. The rules listed below must be carefully followed for safe operation.

1. **NEVER** apply voltage or current to the meter that exceeds the specified maximum:

Input Limits	
Function	Maximum Input
V DC, V AC, Frequency, Duty Cycle	600V DC/AC
A AC, A DC	400A AC
Resistance	250V DC/AC
Capacitance	250V DC/AC
Temperature	60V DC/, 24V AC
Diode test	250V DC/AC

2. **USE EXTREME CAUTION** when working with high voltages
3. **DO NOT** measure voltage if the voltage on the "COM" input jack exceeds 240V above earth ground
4. **DO NOT** measure current of circuits whose voltage is greater than 240V above earth ground
5. **NEVER** connect the meter leads across a voltage source while the function switch is in the resistance or diode mode. Doing so can damage the meter
6. **ALWAYS** turn off the power and disconnect the test leads before opening the doors to replace the fuse or batteries
7. **NEVER** operate the meter unless the back cover is in place and fastened securely

## SAFETY SYMBOLS



This symbol adjacent to another symbol, terminal or operating device indicates that the operator must refer to an explanation in the Operating Instructions to avoid personal injury or damage to the meter

**WARNING**

This **WARNING** symbol indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury

**CAUTION**

This **CAUTION** symbol indicates a potentially hazardous situation, which if not avoided, may result in damage to the meter



This symbol advises the user that the terminal(s) so marked must not be connected to a circuit point at which the voltage, with respect to earth ground, exceeds (in this case) 600 VAC or VDC



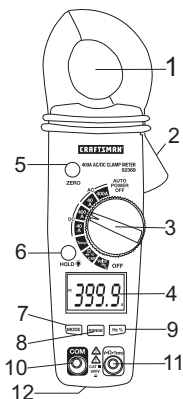
This symbol adjacent to one or more terminals identifies them as being associated with ranges that may, in normal use, be subjected to particularly hazardous voltages. For maximum safety, the meter and its test leads should not be handled when these terminals are energized



This symbol indicates that a device is protected throughout by double insulation or reinforced insulation

## CONTROLS AND JACKS

1. Current clamp
2. Clamp Opening Trigger
3. Rotary Function Switch
4. LCD display
5. ZERO button
6. Data Hold and Backlight button
7. Mode select button
8. Range select button
9. Hz/% Duty Cycle button
10. COM input jack
11. V/ $\Omega$ /Temp jack
12. Battery Cover (rear)



## SYMBOLS AND ANNUNCIATORS

<b>AC</b>	AC (alternating current)
<b>DC</b>	DC (direct current)
<b>—</b>	Minus sign
<b>AUTO</b>	AutoRange mode
<b>ZERO</b>	ZERO mode
<b>•)))</b>	Audible Continuity
<b>HOLD</b>	Data Hold mode
<b>Battery icon</b>	Low Battery icon

<b>Diode symbol</b>	Diode test mode
<b>m</b>	milli
<b>V</b>	Volts
<b>A</b>	Amps

<b>M</b>	Mega
<b><math>\Omega</math></b>	Ohms
<b>°F</b>	Degrees Fahrenheit
<b>°C</b>	Degrees Centigrade



## SPECIFICATIONS

Function	Range		Accuracy
DC Current	40.00 ADC	0-20.00 ADC	± (2.5% reading + 6 digits)
		20.00-40.00 ADC	± (3% reading + 6 digits)
	400.0 ADC	0-300.0 ADC	± (2.5% reading + 6 digits)
		300.0-400.0 ADC	± (3.5% reading + 6 digits)
AC Current	40.00 AAC	0-20.00 AAC	± (3% reading + 10 digits)
		20.00-40.00 AAC	± (5% reading + 10 digits)
	400.0 AAC	0-300.0 AAC	± (3% reading + 10 digits)
		300.0-400.0 AAC	± (5% reading + 10 digits)
DC Voltage	400.0mV		± (0.8% reading + 3 digits)
	4.000V		± (1.5% reading + 3 digits)
	40.00V		
	400.0V		
	600V		± (2.0% reading + 3 digits)
AC Voltage	400.0mV		± (1% reading + 10 digits)
	4.000V		± (2% reading + 5 digits)
	40.00V		
	400.0V		
	600V		± (2% reading + 5 digits)

Resistance	400.0Ω	± (1.0% reading + 4 digits)	
	4.000kΩ		
	40.00kΩ	± (1.5% reading + 2 digits)	
	400.0kΩ		
	4.000kΩ	± (2.5% reading + 3 digits)	
	40.00MΩ	± (2.5% reading + 3 digits)	
Capacitance	40.00nF	± (5% reading + 30 digits)	
	400.0nF	± (3.5% reading + 5 digits)	
	4.000μF	± (3.5% reading + 5 digits)	
	40.00μF		
	100.0μF	± (5% reading + 5 digits)	
Frequency	5.000Hz	± (1.5% reading + 5 digits)	
	50.00Hz	± (1.2% reading + 2 digits)	
	500.0Hz	Sensitivity: 5~5KHz:	
	5.000KHz	10Vrms min.	
	50.00KHz	5KHz~150KHz: 40Vrms	
	150.0KHz	min.	
Duty Cycle	0.5% to 99.0%	± (1.2% reading + 2 digits)	
	Pulse Width: 100μs-100ms, Frequency: 5Hz to 150KHz		
Temperature	-50.0 to 400.0°C	-50.0 to -20.0°C	± 7°C
		-20.0 to 400.0°C	± (3% reading + 5 °C)
	400 to 1000°C	400 to 1000°C	
	-58.0 to 400.0°F	-58.0 to 0°F	± 14°F
		0 to 400.0°F	± (2.5% reading + 6 digits)
	400 to 1832°F	400 to 1832°F	± (3% reading + 7°F)

**NOTE:** Accuracy specifications consist of two elements:

- (% reading) This is the accuracy of the measurement circuit.
- (+ digits) This is the accuracy of the analog to digital converter

**NOTE:** Accuracy is stated at 65°F to 83°F (18°C to 28°C) and less than 70% RH



<b>Clamp size</b>	Opening 0.9" (23mm) approx.
<b>Diode Test</b>	Open circuit voltage <1.5V DC; Test current 0.3mA (typical)
<b>Continuity Check</b>	Audible signal <150Ω; Test current < 1mA
<b>Temperature sensor</b>	Type K thermocouple
<b>Input Impedance</b>	7.8MΩ (VDC and VAC)
<b>Display</b>	3-3/4 digits (4000 counts) LCD
<b>AC V bandwidth</b>	50Hz to 400Hz
<b>AC A bandwidth</b>	50/60Hz
<b>AC response</b>	Averaging
<b>Operating Temperature</b>	41 to 104°F (5 to 40°C)
<b>Storage Temperature</b>	-4 to 140°F (-20 to 60°C)
<b>Operating Humidity</b>	Max 80% up to 87°F (31°C) decreasing linearly to 50% at 113°F (45°C)
<b>Storage Humidity</b>	<80%
<b>Operating Altitude</b>	6560 ft. (2000 meters) maximum
<b>Over voltage</b>	Category III 600V
<b>Battery</b>	(2) 1.5V AAA Batteries
<b>Auto OFF</b>	After 30 minutes of continuous use
<b>Dimensions/Weight</b>	7.87x1.97x1.38" (200x50x35mm) 0.44 lbs. (200g)
<b>Safety</b>	This meter is intended for indoor use and protected, against the users, by double insulation per EN61010-1 and IEC61010-1 2nd Edition (2001) to CAT III 600V; Pollution Degree 2. The meter also meets UL 61010-1, Second Edition (2004), CAN/CSA C22.2 No. 61010-1, Second Edition (2004), and UL 61010B-2-031, First Edition (2003)

## **UL LISTED**

The UL mark does not indicate that this product has been evaluated for the accuracy of its readings

## **PER IEC1010 OVERVOLTAGE INSTALLATION CATEGORY**

### ***OVERVOLTAGE CATEGORY I***

Equipment of OVERVOLTAGE CATEGORY I is equipment for connection to circuits in which measures are taken to limit the transient overvoltages to an appropriate low level. Note – Examples include protected electronic circuits.

### ***OVERVOLTAGE CATEGORY II***

Equipment of OVERVOLTAGE CATEGORY II is energy-consuming equipment to be supplied from the fixed installation. Note – Examples include household, office, and laboratory appliances.

### ***OVERVOLTAGE CATEGORY III***

Equipment of OVERVOLTAGE CATEGORY III is equipment in fixed installations.

Note – Examples include switches in the fixed installation and some equipment for industrial use with permanent connection to the fixed installation.

### ***OVERVOLTAGE CATEGORY IV***

Equipment of OVERVOLTAGE CATEGORY IV is for use at the origin of the installation.

Note – Examples include electricity meters and primary over-current protection equipment

## OPERATING INSTRUCTIONS

**Notice:** Read and understand all **WARNING** and **CAUTION** statements listed in the safety section of this operation manual prior to using this meter. Set the function select switch to the OFF position when the meter is not in use.

### NOTES:

1. ALWAYS turn the rotary function switch to the OFF position when the meter is not in use
2. If "OL" appears in the display during a measurement, the value exceeds the range you have selected. Change to a higher range

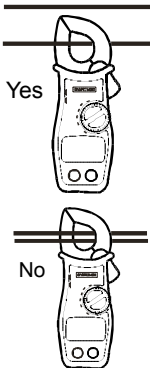
### DC/AC CURRENT MEASUREMENTS

**WARNING:** Disconnect the test leads from the meter before making current clamp measurements.

1. Set the Function switch to the **400ADC, 40ADC, 400AAC or 40AAC** range. If the range of the measured current is not known, select the higher range first then move to the lower range if necessary.
2. For DC current measurement, press the ZERO key to null the meter display.
3. Press the trigger to open jaw. Fully enclose one conductor to be measured.

**Note:** Do not put more than one wire inside the current clamp.

4. The clamp meter LCD will display the reading.

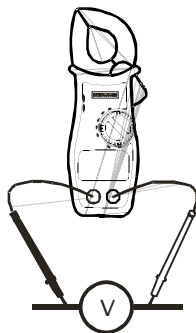


## DC/AC VOLTAGE MEASUREMENTS

**WARNING:** Risk of Electrocution. The probe tips may not be long enough to contact the live parts inside some 240VAC outlets for appliances because the contacts are recessed deep in the outlets. As a result, the reading may show 0 volts when the outlet actually has voltage on it. Make sure the probe tips are touching the metal contacts inside the outlet before assuming that no voltage is present.

**CAUTION:** Do not measure DC or AC voltages if a motor on the circuit is being switched ON or OFF. Large voltage surges may occur that can damage the meter.

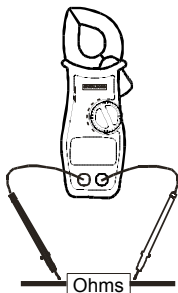
1. Set the rotary function switch to the **Volts/Hz/%** position.
2. Insert the black test lead banana plug into the negative (COM) jack and the red test lead banana plug into the positive (V/ $\Omega$ /Temp) jack
3. Select AC or DC with the **MODE** button
4. Connect the test leads to the circuit under test
5. Read the voltage on the display. The display will indicate the proper decimal point and value.



## RESISTANCE MEASUREMENTS

**WARNING:** To avoid electric shock, disconnect all power to the unit under test, remove the batteries, unplug the line cords and discharge all capacitors before taking any resistance measurements.

1. Set the function switch to the  $\Omega$   $\blacktriangleright$   $\bullet$  CAP position.
2. Insert the black test lead banana plug into the negative (COM) jack and the red test lead banana plug into the positive (V/ $\Omega$ /Temp) jack
3. Touch the test probe tips across the circuit or part under test. It is best to disconnect one side of the part under test so the rest of the circuit will not interfere with the resistance reading
4. Read the resistance in the display



## CONTINUITY CHECK

**WARNING:** To avoid electric shock, never measure continuity on circuits or wires that have voltage on them.

1. Set the function switch to the  $\Omega$   $\blacktriangleright$   $\bullet$  CAP position.
2. Push the mode button to indicate  $\bullet$  on the display.
3. Insert the black lead banana plug into the negative (COM) jack. Insert the red test lead banana plug into the positive (V/ $\Omega$ ) jack.
4. Touch the test probe tips to the circuit or wire you wish to check.
5. If the resistance is less than approximately  $150\Omega$ , the audible signal will sound. If the circuit is open, the display will indicate "OL".

## DIODE TEST

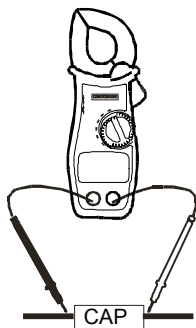
**WARNING:** To avoid electric shock, do not test any diode that has voltage on it.

1. Turn the rotary switch to the  $\Omega \rightarrow \bullet \cdot \cdot \cdot \cdot$  **CAP** position.
2. Insert the black test lead banana plug into the negative (COM) jack and the red test lead banana plug into the positive ( $V\Omega$ ) jack.
3. Push the mode button to indicate  $\rightarrow \bullet$  on the display.
4. Touch the test probes to the diode under test. Typically for a normal diode, forward voltage will indicate 0.4V to 0.7V. Reverse voltage will indicate "OL". Shorted devices will indicate near 0V and an open device will indicate "OL" in both polarities.

## CAPACITANCE MEASUREMENTS

**WARNING:** To avoid electric shock, discharge the capacitor under test before measuring.

1. Set the function switch to the  $\Omega \rightarrow \bullet \cdot \cdot \cdot \cdot$  **CAP** position.
2. Push the mode button to indicate **nF** on the display.
3. Insert the black lead banana plug into the negative (COM) jack and insert the red test lead banana plug into the positive ( $V\Omega$ Temp) jack.
4. Press the ZERO key to null the meter display.
5. Touch the test probe tips to the capacitor you wish to check.
6. Read the capacitance value on the display.



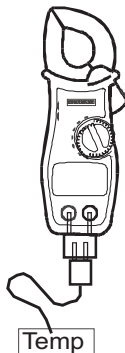
## FREQUENCY or % DUTY CYCLE MEASUREMENTS

1. Turn the rotary switch to the **Volts Hz %** position.
2. Insert the black test lead banana plug into the negative (COM) jack and the red test lead banana plug into the positive ( $V\Omega$ ) jack.
3. Select Hz or % with the **HZ/%** button.
4. Touch the test probe tips to the circuit under test.
5. Read the frequency on the display.

## TEMPERATURE MEASUREMENTS

**WARNING:** To avoid electric shock, disconnect both test probes from any source of voltage before making a temperature measurement.

1. Turn the rotary switch to the **Temp** position.
2. Insert the Temperature Probe into the negative (COM) and the ( $V\Omega$ Temp) jacks, making sure to observe correct polarity.
3. Select  $^{\circ}\text{C}$  or  $^{\circ}\text{F}$  with the **MODE** button.
4. Touch the temperature probe head to the part whose temperature you wish to measure. Keep the probe touching the part under test until the reading stabilizes.
5. Read the temperature on the display.



**Warning:** To avoid electrical shock, be sure the thermocouple has been removed before changing to another measurement function.

## AUTO POWER OFF

To extend the battery life, the meter will enter the sleep mode after 30 minutes of continuous use. Turn the function switch to the OFF position to shut the meter OFF and then to the needed function to resume operation.

## AUTO/MANUAL RANGING

The meter turns on in Autoranging mode. Press the **RANGE** button to enter manual ranging. Each press of the range button will step to the next range as indicated by the units and decimal point location. Press and hold the **RANGE** button for two seconds to return to Autoranging mode.

**Note:** Manual ranging does not function in AC Current or Diode and Continuity check functions. In Temperature function, it will change the resolution from 0.1° to 1°.

## DATA HOLD

To freeze the LCD meter reading, press the **HOLD** button. While data hold is active, the **HOLD** display icon appears on the LCD. Press the HOLD button again to return to normal operation.

## BACKLIGHT

Press and hold the **HOLD** button for >2 seconds to turn the backlight on/off.

**Note:** The HOLD feature will activate when the backlight is turned on. Press the HOLD button again to exit the Hold feature.

## ZERO BUTTON

Zeros Capacitance and DC Current measurements. It also allows you to make measurements relative to a stored reference value. A reference voltage, current, etc. can be stored and measurements can be made in comparison to that value. The displayed value is the difference between the reference and measured value.

1. Perform any measurement as described in this manual.
2. Press the ZERO button to store the displayed reading (the ZERO indicator will appear on the display).
3. The display will now indicate the difference between the stored value and the measured value.
4. Press the ZERO button to return to normal operation



## MAINTENANCE


**WARNING:** To avoid electric shock, do not operate your meter until all covers are in place and fastened securely.

This meter is designed to provide years of dependable service, if the following care instructions are performed:

1. **KEEP THE METER DRY.** If it gets wet, wipe it off.
2. **USE AND STORE THE METER IN NORMAL TEMPERATURES.** Temperature extremes can shorten the life of the electronic parts and distort or melt plastic parts.
3. **HANDLE THE METER GENTLY AND CAREFULLY.** Dropping it can damage the electronic parts or the case.
4. **KEEP THE METER CLEAN.** Wipe the case occasionally with a damp cloth. DO NOT use chemicals, cleaning solvents, or detergents.

### REPLACING THE BATTERIES

**WARNING:** To avoid electric shock, disconnect the test leads from any source of voltage before removing the battery door.

1. When the batteries become exhausted or drop below the operating voltage, the low battery indicator  will appear in the LCD display. The batteries should then be replaced.
2. Disconnect the test leads from the meter.
3. Open the battery door by removing the rear screws using a Phillips head screwdriver.
4. Insert the batteries into battery holder.
5. Put the battery door back in place. Secure with the screws.
6. Dispose of the old batteries properly.

**WARNING:** To avoid electric shock, do not operate the meter until the battery door is in place and fastened securely.

**NOTE:** If your meter does not work properly, check the battery ensuring that it is still good and properly inserted.

## TROUBLESHOOTING

There may be times when your meter does not operate properly. When this occurs, check the following:

### Meter Does Not Operate

1. Review all the instructions in this manual.
2. Check to be sure the battery is properly installed.
3. Check to be sure the battery is good.
4. If the battery is good and the meter still does not operate, check to be sure that both ends of the fuse are properly installed.

### If You Need Assistance Understanding How the Meter Works

1. Purchase the instructional book *Multitesters and Their Use for Electrical Testing* (Item No. 82303) at your local Sears store.
2. Call our Customer Service Line **1-888-326-1006**.

## SERVICE AND PARTS

Item Number	Description
82398	Set of black and red Test Leads
82394	Temperature Probe
82369-DB	Replacement battery door
82369-CS	Rear cover screws

For replacement parts shipped directly to your home  
Call Monday through Friday, 9 AM – 5 PM Eastern Time  
**1-888-326-1006**